

NEARLINE



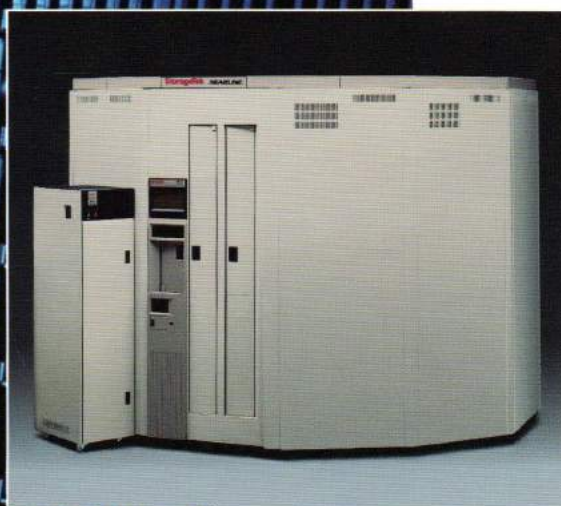
**StorageTek®**

**EXTENDEDSTORE™ LIBRARY**



**Nearline® Advantages**

- Cost-effective automated storage
- Pass-thru connectivity
- Extended automation
- Multiple-vendor compatibility



*With the ExtendedStore Library, StorageTek continues its leadership in offering a family of storage alternatives to fulfill all of your tape automation requirements.*

#### **OVERVIEW**

The ExtendedStore Library from Storage Technology Corporation offers an extension to the automated solutions provided by the 4400 Automated Cartridge System. The ExtendedStore Library expands the Nearline advantages to manage your infrequently accessed information.

The ExtendedStore Library is an ideal solution for storing less-active data in a more effective manner. Until now, tapes containing infrequently accessed information (archive data) often were ejected from the 4400 ACS, and the 4400 would manage only the more active tape data sets. These archive tapes then were controlled manually and stored in tape vaults — offline.

#### **EXTENDED AUTOMATION**

The ExtendedStore Library allows you to fully automate your manual tape library to provide greater utilization of machine and human resources. Automating the archival portion of tape operations ensures automated access to your stored information in the same consistent, reliable fashion you have come to expect from the 4400 Automated Cartridge System, at a significantly reduced cost. The ExtendedStore Library also provides

the flexibility to expand capacity of your Nearline configuration without adding additional drives.

#### **COST-EFFECTIVE STORAGE**

The ExtendedStore Library consists of one or more Library Storage Modules (LSMs) with attached Library Control Units (LCUs). Each LSM has a capacity of up to 6,000 cartridges. Because the ExtendedStore Library is designed for cost-effective tape archiving purposes, cartridge subsystems are not attached directly to the LSM. Instead, all electronic reads or writes to the cartridges residing in the ExtendedStore Library take place in the nearest drive through an attached LSM(s).

#### **PASS-THRU CONNECTIVITY**

StorageTek's unique pass-thru port provides the connectivity to allow tape migrations to and from the ExtendedStore Library to other ExtendedStore Libraries, or to other StorageTek drive-attached LSMs. The Host Software Component (HSC) and Expert Library Manager (ExLM™) software provide the power to manage cartridge placement. This means you can further expand your storage management practices by moving less active tape data sets to an even lower-cost automated storage device, the ExtendedStore Library. The migration and recall of cartridges throughout any of your StorageTek

libraries take place transparently, without the need for human handling.

#### **CONVENIENT CARTRIDGE**

##### **ACCESS PORTS**

Manual enters and ejects into the ExtendedStore Library occur through the standard Cartridge Access Port (CAP) with 21-cartridge capacity or through an enhanced Cartridge Access Port. The enhanced Cartridge Access Port allows magazine handling of up to 80 cartridges to further facilitate entering or ejecting tape cartridges from the library. The enhanced Cartridge Access Port also provides the capability to interrupt CAP processing and enter or eject a single cartridge on a priority basis.

#### **MULTIPLE-VENDOR COMPATIBILITY**

As with all StorageTek library systems, the ExtendedStore Library will connect to nearly all processor environments worldwide, allowing for effective enterprise storage management in both homogeneous and heterogeneous environments. The ExtendedStore Library will attach directly to all current and future StorageTek libraries and is fully field upgradable to a full-function, drive-attached library should your storage requirements change.





## EXTENDEDSTORE LIBRARY FEATURES

### Automated archival

### Pass-thru port

### Heterogeneous platform support

### Field upgradable

### Host Software Component (HSC) and Expert Library Manager (ExLM) software support

### Multiple Cartridge Access Port (CAP) support

## NEARLINE BENEFITS

- Provides low cost, automated handling and housing of cartridge tapes.
- Increases security and control over cartridge media.
- Increases storage cell capacity in existing automated cartridge systems.
- Provides consistent access to archived data.
- Enhances library configuration and cartridge management flexibility.
- Provides direct connectivity to all existing and future StorageTek libraries.
- Facilitates automated migration of tapes throughout the Nearline family.
- Provides connectivity to nearly all processor environments worldwide.
- Allows a seamless migration to a full-function automated cartridge system.
- Assures protection of your storage investment.
- Provides precise cartridge location management to and across any library in the automated cartridge system configuration.
- Allows entering or ejecting up to 21 cartridges at a time per Library Storage Module without disruption to automated operations through the standard Cartridge Access Port.
- Supports the optional enhanced Cartridge Access Port. Allows entering or ejecting up to 80 cartridges at a time per Library Storage Module without disruption to automated operations.
- Facilitates cartridge loading/unloading through 10-cartridge-capacity magazines.
- Provides a Priority Cartridge Access Port through the enhanced CAP for single-cartridge priority handling.

*The ExtendedStore Library expands the versatility of the Nearline family as the cost-effective automated solution for managing archive tape data sets.*

## SPECIFICATIONS

### LIBRARY STORAGE MODULE (LSM)

Operation	60 Hz/50 Hz
Dimensions	(inches/centimeters)
Height	92.5/234.9
Diameter*	128.0/325.0
Weight	(pounds/kilograms)
Loaded	8400/3810
Unloaded	5400/2449

\* Across the flats of the wall.

### LIBRARY CONTROL UNIT (LCU)

Dimensions	(inches/centimeters)
Height	63.5/161.3
Width	15.6/39.7
Depth	22.5/57.2
Weight (pounds/kilograms)	300/136

### LIBRARY MANAGEMENT UNIT (LMU)

Operation	60 Hz/50 Hz
Host Attachments	1 Standard (Up to 15 more optional)
Dimensions	(inches/centimeters)
Height	42.0/106.7
Width*	29.0/73.7
Depth	32.0/81
Weight	(pounds/kilograms)
	250/113.3
Service Clearance	(inches/centimeters)
Front	32/81
Rear	32/81

\* With side panels.

### POWER REQUIREMENTS FOR LSM AND LCU

Line Voltage	200	208	220	230	240
Tolerance	±10	+10	+10	±10	+10
		-15	-15		-15
Phases	1	1	1	1	1
Maximum Amps RMS	12	12	12	12	12
Power Consumption*	1.1 KW	1.5 kVA			
Line Current*	8.4 A @ 180 VAC (200 VAC nominal)				
Line Frequencies*	Between 47 and 63 Hz				
Heat Output*	3,750 Btu/hr 950 kCAL/hr				
Power Connectors					
U.S./Canada	Russell Stoll 3720				
Other	None				

\* These are operating values.

### POWER REQUIREMENTS FOR LIBRARY MANAGEMENT UNIT (LMU)

Line Voltage	200	208	220	230	240
Tolerance	±10	+10	+10	±10	+10
		-15	-15		-15
Phases	1	1	1	1	1
Maximum Amps RMS	8	8	8	8	8
Power Consumption*	.6 KW	.88 kVA			
Line Current*	4A @ 180 VAC (200 VAC nominal)				
Line Frequencies*	Between 47 and 63 Hz				
Heat Output*	2,050 Btu/hr 515 kCAL/hr				
Power Connectors					
U.S./Canada	Russell Stoll 3720				
Other	None				

\* These are operating values.

### ENVIRONMENTAL SPECIFICATIONS

	Operating	Storage	Shipping
Temperature	60 to 90°F (16 to 32°C)	40 to 90°F (4.4 to 32°C)	-23 to +120°F (-10 to +48°C)
Thermal Change	≤9°F per hour (≤5°C per hour)	≤27°F per hour (≤15°C per hour)	≤27°F per hour (≤15°C per hour)
Humidity	20 to 80%	10 to 90%	5 to 100%
Wet Bulb	78°F	80°F	80°F
Maximum	(25.6°C)	(26.7°C)	(26.7°C)
Altitude	0 to 10,000 feet (0 to 3,050 meters)	(noncondensing) 0 to 10,000 feet (0 to 3,050 meters)	(noncondensing) 0 to 50,000 feet (0 to 15,240 meters)

NOTE: The shipping environment must not exceed the limits of the storage environment for a period longer than 10 days.

### CONFIGURATIONS AND CAPACITIES

Hosts per LMU (max)	16
LSMs per LMU (max)	16
Cartridges per LSM	~6,000
Cartridge Access Port (CAP)	
Standard	21 cartridges
Optional	80 cartridges
	1 Priority Cartridge Access Port (PCAP)

### CARTRIDGE STORAGE SPECIFICATION

Format	IBM 3480/3490/3490E-compatible
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### OPERATING SYSTEMS SUPPORTED BY HOST AND CLIENT SOFTWARE

Amdahl/UTS	ICL/VME
Bull/GCOS8 and GCOS7	Pyramid/dual
Control Data/NOS,	PORT OSx
NOS/VE	Siemens/BS2000
Convex/Convex OS	Sun Micro/Solaris
Cray Research/	Unisys/OS1100
UNICOS/COS	
DEC/VMS/Ultrex	
Fujitsu/MSP	
IBM/AIX	
IBM MVS/370/XA™/ESA™	
IBM VM/SP/XA™/HPO/ESA	

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Innovation in storage

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